What is claimed is:

1.   A method for balancing the load of a wireless local area network, the wireless local area network comprising a plurality of access points, the method comprising the steps of:

5   sending a probe-request frame from a station to said plurality of access points;

selecting an access point with the lowest load;

sending a probe-response frame from the access point with the lowest load to the station; and

10   constructing an association between the station and the access point with the lowest load for balancing the load of said plurality of access points.

2.   The method for balancing the load of a wireless local area network of Claim 1, wherein the step of selecting an access point with the

15   lowest load access point includes the substeps of:

selecting an access point as a master access point and assigning the other access points as slave access points;

sending a load collection packet from the master access point to the slave access points;

20   returning load index packets with load information from the slave access points; and

performing a load comparison procedure to select an access point with the lowest load according to the load index packets.

3.   The method for balancing the load of a wireless local area

25   network of Claim 2, wherein the load comparison procedure comprises the

substeps of:

collecting the load index packets sent from the other access points by each access point;

comparing its own load by each access point with the loads of the
5   other access points; and

turning on a probe-response function of the access point with the lowest load, and turning off the probe-response function of the other access points.

4.   The method for balancing the load of a wireless local area
10   network of Claim 2, wherein the master access point is the access point booted first.

5.   The method for balancing the load of a wireless local area network of Claim 2, further comprising a group reconstruction procedure for selecting the access point with the lowest load as the master access
15   point.

6.   The method for balancing the load of a wirless local area network of Claim 5, wherein the group reconstruction procedure comprises the substeps of:

sending group reconstruction packets with load information from said
20   plurality of access points;

comparing its own load by each access point with the loads of the other access points; and

setting the access point with the lowest load as the master access point.

25   7.   The method for balancing the load of a wireless local area network of Claim 1, wherein the plurality of access points have the same basic service set identifier.

8.   The method for balancing the load of a wireless local area network of Claim 1, wherein the access point with the lowest load replies a probe-response frame to the station and the other access points do not reply.

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